

Remarks

This is in response to the official action mailed December 15, 2006 (Paper No./Mail Date 20061204). As set forth in the official action (page 2) all of the previous grounds of rejection have been withdrawn. Applicants accordingly note with appreciation the Examiner's review and consideration of Applicants' amendments and arguments to date.

The claims have now been rejected, however, under § 102(b) as anticipated by U.S. Patent Application Publication No. 20030082633 to named inventor Martin ("Martin '633").

The claims have also been rejected as obvious under various combinations of Martin '633 with Yu, Williams, Stadler, and Santagada.

The rejections are inappropriate for at least three reasons: (1) the relevant portions of Martin '633 are not § 102(b) prior art; (2) even if prior art, Martin '633 fails to disclose the invention within its four corners; and (3) even if prior art, the relevant portions of Martin '633 lack enablement and thus cannot support any art-based rejection against the pending claims.

As set forth in the claims section, in order to clarify the issues under consideration, Claim 1 has been amended to specifically recite that the single vessel is a microwave transparent vessel. This is of course supported in the specification as filed (e.g., the Abstract, Paragraphs 0038 and 0084 among others, and several of the claims as filed), and Applicants submit that the amendment is appropriate, even after Final, given that it distinguishes over references which have been applied for the first time in the Final office action.

The Portions of Martin '633 Used in the Rejection Cannot be Applied Under §102(b)

The Martin '633 publication carries a formal filing date of September 5, 2002, but claims priority as a continuation-in-part from Application No. 09/968,517 filed October 2, 2001 which in turn claims priority from provisional Application No. 60/237,192 filed October 3, 2000.

The pending application was filed on June 23, 2003. Thus, in order to qualify as 102(b) prior art as against the pending claims, a patent or patent application must have an effective filing date earlier than June 23, 2002.

Because the filing date of the Martin '633 publication is September 23, 2002, its filing date, standing alone, does not qualify as 102(b) prior art.

Because the Martin '633 publication is a continuation-in-part, however, at least some of the information in Martin '633 has an effective filing date of the parent application (October 2, 2001) or of the provisional application (October 3, 2000).

According to the Examiner, Examples 12 and 13 of the Martin '633 publication anticipate at least Claim 1 (conducting the analysis in terms of the independent claims). Therefore, if Examples 12 and 13 are entitled to the September 5, 2002 filing date, they are not § 102(b) prior art as against the claims. Alternatively, if Examples 12 and 13 are entitled to the priority date of October 2, 2001 or October 3, 2000, then Examples 12 and 13 are § 102(b) prior art as against the claims.

The Martin '633 publication is (of course) available to the public and its prosecution history is likewise available to the public, including availability on Public PAIR. Thus, the public, the Applicant, and the Examiner, can all easily confirm the contents of No. 10/234,092 as of September 5, 2002, the contents of number 09/968,516 as of October 2, 2001; and the contents of No. 60/237,192 as of October 3, 2000.

Application No. 09/968,516 (October 2, 2001) does not include Examples 12 or 13, but instead ends with Example 9. Similarly, application number 60/237,192 (October 3, 2000) only includes Examples 1 through 8.

Therefore, the information used in the office action to reject the claims as either anticipated or obvious does not qualify as § 102(b) prior art. As a result, the § 102(b) rejection must be removed. Because the cited sections of Martin '633 are not prior art, the § 103 obviousness combinations similarly collapse. Absent Martin '633 the references essentially represent combinations that the Examiner has already admitted are overcome and has withdrawn.

Even If Martin '633 Were Prior Art, It Still Fails To Anticipate
The Claims Or Render Them Obvious

In order for a reference to anticipate, the reference must enable the subject matter for which it is being asserted. In turn, enablement requires that the reference teach one of ordinary skill in the art to make or carry out the claimed invention without undue experimentation. The disclosure in the anticipating reference must be adequate to enable possession of the desired subject matter. Naming or describing subject matter is insufficient if the subject matter cannot be produced without undue experimentation.

In making the anticipation argument, the office action cites a portion of Martin's Paragraph [0296]:

"Synthesis procedure is as described (Hilpert, et al 2001 and references cited therein, and Sigma-Genosys technical notes) with the exception that reaction times are shorted where appropriate by a factor of 2 to 20-fold and the shortened reactions are carried out under irradiation by microwaves in a microwave oven."

Thus, in making the § 102(b) rejection, the Examiner takes the position that the cross-references to Hilpert and Sigma-Genosys in Example 12 establish Martin '633 as meeting all of the recitations of Claim 1.

There are, however, several logical problems with this approach. First, as Paragraph [0296] states, Example 12 actually incorporates at least three sets of techniques: those of Hilpert, those of the "Sigma-Genosys technical notes," and those of the "references cited" in Hilpert.

Sigma-Genosys

The Sigma-Genosys technical notes, however, are referenced no further in Martin '633, and Martin '633 fails to include them in his bibliography (e.g. Paragraphs 0304-0405). The Sigma-Genosys technical notes fail to appear in the Information Disclosure Statements filed by Martin or in the Notices of References Cited provided by the Office (in the Martin

‘633 prosecution history). The Examiner has neither provided them to the Applicants nor included them as a cited reference in the Examiner's PTO-892 Notice mailed with the December 15 office action. (Arguably, the failure to provide the Applicants with a copy of the Sigma Genosys technical notes is inconsistent with the requirements of MPEP 707.05(a) and (d)).

Accordingly, neither the Applicants nor the skilled person can confirm the identity or contents of the Sigma-Genosys technical notes. Therefore, they cannot provide the foundation for using Martin ‘633 in any type of art-based rejection.

Stated differently by relying on Martin's incorporation of the Sigma-Genosys notes, and because of the complete absence of the Sigma-Genosys notes from the record, Martin ‘633 fails to give the skilled person possession of Martin's Example 12 or 13 and thus Martin ‘633 cannot provide the skilled person possession of the claimed invention.

Hilpert and the “references cited”

The Hilpert reference fails to explicitly disclose the peptide preparation process. First, Hilpert's deprotection step was carried out over the course of three hours (page 803, column 2, lines 11-13). Hilpert then couples the peptides as set forth at lines 16-18. Accordingly, Example 12 never explicitly recites that both the de-protecting and coupling steps are carried out under the influence of microwave energy (Claim 1 Paragraph (d)). Absent this explicit teaching, Example 12 cannot be a § 102 reference. Thus, even when Martin's Example 12 is read side-by-side with Hilpert, the skilled person cannot confirm which steps were carried out under microwave.

Second, in describing his experimental technique, Hilpert refers in turn to two more articles (i.e., page 803 lines 9 and 10 of Hilpert and the Acknowledgments on page 806):

“Cellulose-bound peptides for binding experiments were prepared . . . as described previously (Kramer et al., 1994; Kramer and Schneider-Mergener, 1998).”

To date, neither of the Kramer publications have been provided to the Applicant.

In spite of that, and in order to reach the § 102 conclusion, the Examiner argues that Martin incorporating Hilpert (and potentially Sigma-Genosys), and Hilpert in turn incorporating one or both of the Kramer references, meets all of the recitations of Claim 1.

Nevertheless, because of the multiple ambiguities in the manner in which Martin incorporates Hilpert and Sigma-Genosys and the manner in which Hilpert incorporates the two Kramer references, Martin '633 offers the skilled person the following (and potentially more) possibilities for carrying out Examples 12 and 13:

- Martin incorporating Hilpert and Sigma-Genosys;
- Martin incorporating Hilpert or Sigma-Genosys;
- Martin incorporating (Kramer or Kramer-Schneider) or Sigma-Genosys;
- Martin incorporating (Kramer or Kramer-Schneider) and Sigma-Genosys;
- Martin incorporating (Kramer and Kramer-Schneider) or Sigma-Genosys; and
- Martin incorporating (Kramer and Kramer-Schneider) and Sigma-Genosys.

Thus, the issue is not whether the combinations of materials cited in Martin '633 (and then Hilpert and then Kramer and then potentially others) are accurate or inaccurate representations of the state of the art. Instead, the issue is whether Martin '633 enables a person of ordinary skill in this art to produce the claimed invention without undue experimentation.

Applicants respectfully submit that because of the large number of permutations that arise from the Examiner's use of Martin '633, Hilpert, Sigma-Genosys, Kramer, and Kramer-Schneider, the Martin '633 publication cannot enable the claimed invention and thus must fail as prior art for such purpose.

Martin Absorbs Microwaves while Claim 1 Recites a Vessel that Transmits Microwaves:

As set forth above, Claim 1 has been amended to recite that the single vessel is microwave transparent. This is, of course, consistent with the application as filed and with all of the prosecution to date. Its explicit appearance in Claim 1, however, highlights the difference between Martin's microwave absorbing susceptor and Claim 1's microwave transparent vessel. Martin's microwave-absorbing susceptor cannot serve as Claim 1's microwave transparent vessel and thus Martin cannot disclose Claim 1 within its four corners even if all of Martin's enablement problems are resolved in Martin's favor.

The Obviousness Combinations

The § 103 rejection is based on a three-way combination of Yu, Williams, and Martin.

First, Applicants repeat and incorporate their arguments with respect to the failure of Martin to qualify as § 102 (b) prior art. Without Martin, the combination collapses and should be removed as against the claims.

Second, Claim 1 now specifically recites that the single vessel is a microwave transparent vessel. This is functionally opposite from Martin's susceptor plate which incorporates barium titanate between two standard glass microscope slides in order to absorb, rather than transmit, microwaves (Paragraph 0295 of Martin '633). Thus, Martin teaches away from Claim 1 and cannot support the § 103 combination.

Third, even if the date problems with Martin are ignored, Martin's ambiguity (and thus its enablement problem) remains. Absent certainty as to what Martin is actually disclosing (because of its incorporation of the Hilpert reference, the Sigma-Genosys notes, the Kramer reference, and the Kramer-Schneider reference), Martin cannot provide useful information to the skilled person in the manner suggested by the Examiner in the combination.

As noted earlier, the office action lacked copies of the Sigma-Genosys technical notes, the Kramer reference, and the Kramer-Schneider reference. Applicants have,

however, independently obtained the Kramer-Schneider reference and a copy is being submitted concurrently herewith in the form of a Supplemental Information Disclosure Statement. Basically, the Kramer-Schneider reference discloses a technique for modifying cellulose-based filter paper, defining a plurality of peptide-friendly "spots" on the paper, and then carrying out peptide synthesis starting with an amino acid coupled to the spot on the paper. Kramer-Schneider is accordingly inconsistent with the HMP resin techniques of Yu and fails to disclose or suggest the use of a microwave transparent vessel or of microwaves to accelerate any of the relevant steps.

Fourth, even if (for the sake of argument) Martin is taken for the disclosure that the Examiner asserts, the combination still collapses because the three techniques (Yu, Williams, Martin) differ fundamentally from one another and cannot be logically combined other than as an attempt reconstruct Claim 1 in hindsight.

Yu carries out peptide synthesis on a solid phase HMP resin (e.g., p-hydroxymethylphenoxymethyl polystyrene) (page 4781, left-hand column, third paragraph). As noted by the Examiner, Yu fails to disclose or suggest carrying out the deprotection reaction using microwaves.

The Examiner asserts the Williams patent (No. 6,858,434) for the step of deprotecting under microwaves. Williams, however, does not use a solid phase resin (thereby differing from both Claim 1 and the Yu reference) and instead carries out synthesis on thin layer chromatography ("TLC") plates coated with silica gel (Example 5 as cited by the Examiner). Accordingly, Williams lacks any suggestion as to why the Williams technique ought to be carried out on an HMP resin or why the Yu technique ought to be modified to incorporate silica gel instead of a solid phase resin.

The Examiner adds Martin to the combination to allegedly meet the "single vessel" recitation of Claim 1. At best, however (and the weaknesses of Martin have been thoroughly presented earlier herein), Martin uses a cellulose membrane rather than a solid phase resin. Applicants submit that the Examiner is unreasonably stretching both the term "single vessel"

and the term "cellulose membrane" in asserting that Martin's cellulose membrane meets the recitation of "single vessel" in Claim 1.

In fact, in attempting to overly stretch this point, the Examiner's position becomes even more strained because it requires Martin's cellulose membrane to serve as both the linked solid phase resin (Claim 1, paragraph (a))—which it is not—and as the microwave transparent single vessel (Claim 1, paragraph (e))—which it is likewise not. Stated differently, the Examiner is taking a single element from the prior art and applying it to multiple different elements in Claim 1 on an ad hoc, as needed basis. Essentially, the Examiner is stating—without support—that a cellulose membrane can be a linked solid resin peptide if necessary or a single vessel if necessary or both at the same time if necessary.

Furthermore, the Examiner's construction requires Martin's microwave-absorbing susceptor to be microwave transparent. This is, of course, a functional and logical contradiction.

Applicants respectfully submit that the disclosures of Martin cannot logically be stretched to this extent.

Stated differently, Claim 1 recites that the solid phase resin is linked to a first amino acid. If (as the Examiner asserts) the linked resin is the same as the single vessel, then the linked peptide would need to be in the vessel and be the vessel at the same time. This is logically inconsistent and further demonstrates why the cellulose membrane technique of Martin cannot logically render the claims obvious regardless of whatever other references are brought to bear in a combination.

In summary, none of the three references (Yu, Williams, Martin) offer the skilled person any suggestion as to why the HMP resin technique should be combined with or substituted for either a silica gel technique or a cellulose membrane technique. Because these techniques are inconsistent with one another and are connected solely by the theme of peptide synthesis, the combination is essentially inoperable and it cannot provide the skilled person with the motivation to carry out the steps recited in Claim 1.

The remainder the claims are dependent from Claim 1, and thus all of the same arguments apply. Because the combination fails to render Claim 1 obvious, it likewise fails to render any of the dependent claims obvious.

Therefore, Applicants submit that the § 103 rejections against the pending claims must likewise be removed.

In order to reduce the issues under consideration at this point, all of the claims other than 1, 2 and 4-12 have been canceled. Applicants accordingly submit that the remaining claims are in condition for immediate allowance, and the same is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Philip Summa", with a long horizontal flourish extending to the right.

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